



NGTP Service Manager JLR VDC

25th April 2022

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I. NGTP Service Manager

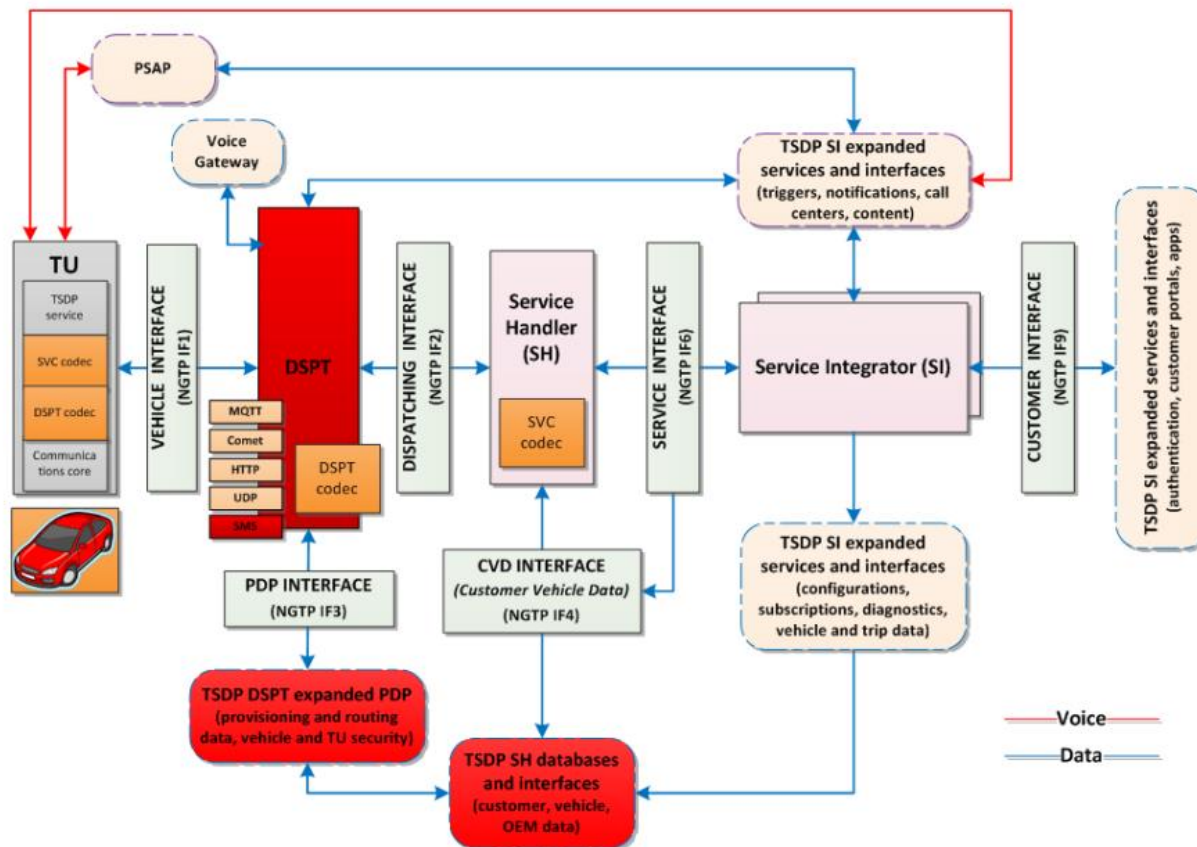
1. NGTP protocol
2. NGTP Service Manager Design
3. NGTP Functions
4. External Library in NGTP
5. NGTP transport
6. NGTP Source Code
7. NGTP Commons issue
8. NGTP open questions

1. NGTP protocol

❑ What is NGTP protocol ?

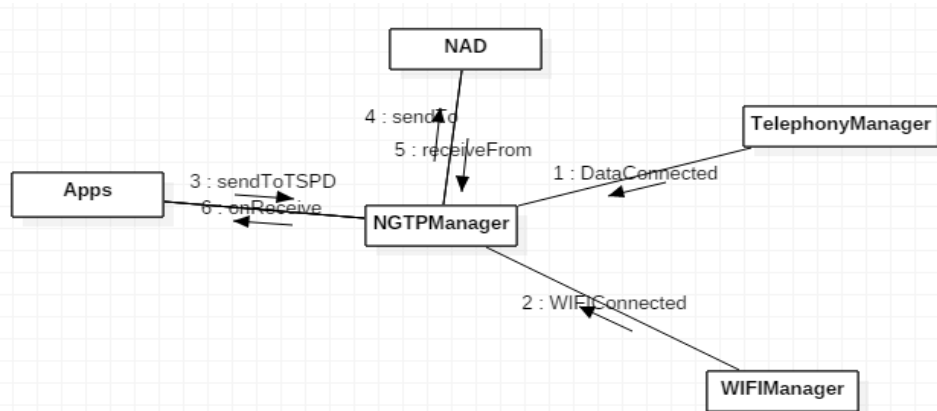
TSDP - Telematics Service Delivery Platform enables the delivery of telematics services.

The TSDP architecture is used to deliver information. Vehicle Interface (NGTP IF1) is provided by the Dispatcher (DSPT) and used by the Telematics Unit (TU).



2. NGTP Manager Service Design

❑ Payload and Integrated Modules



Design points

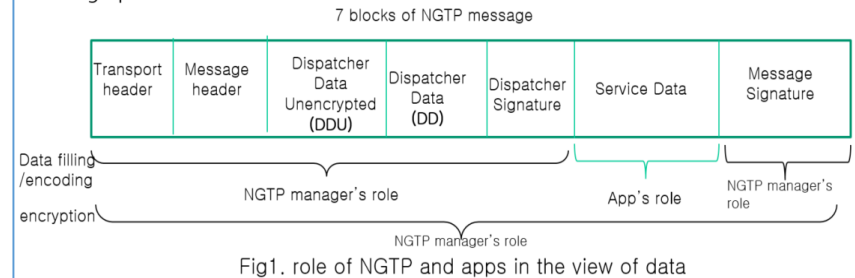
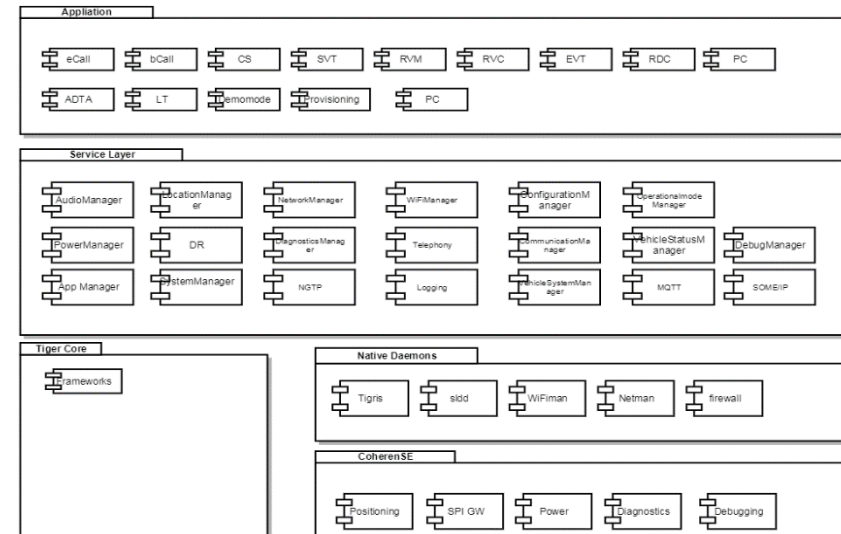


Fig1. role of NGTP and apps in the view of data

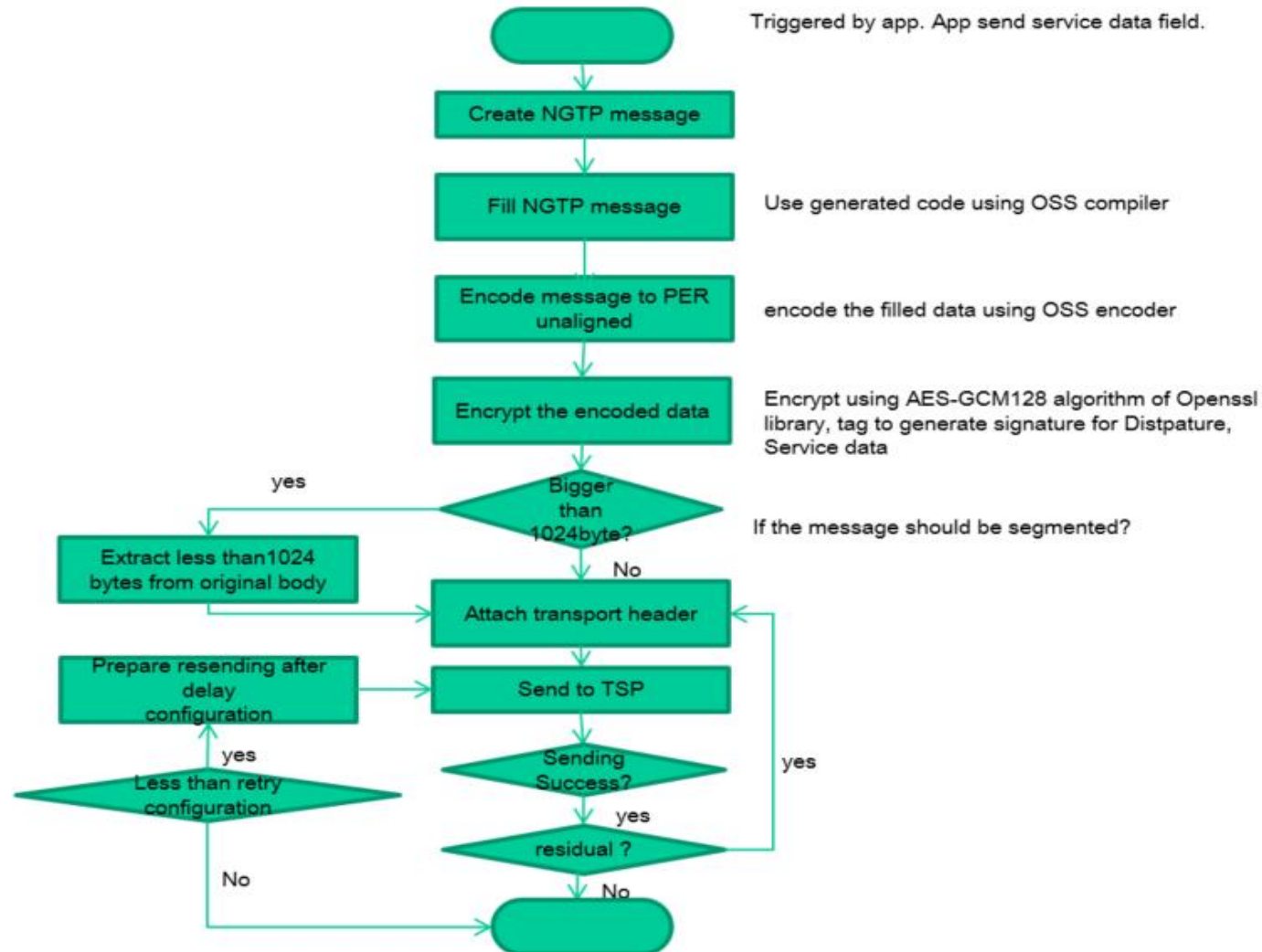
Item	role
Sending through each transport channel	NGTP manager
Managing segmented message	NGTP manager
Retry strategy in one transport channel	NGTP manager
Retry strategy across the transport channel	Apps

Table1. Role of NGTP manager and apps in the view of algorithm.

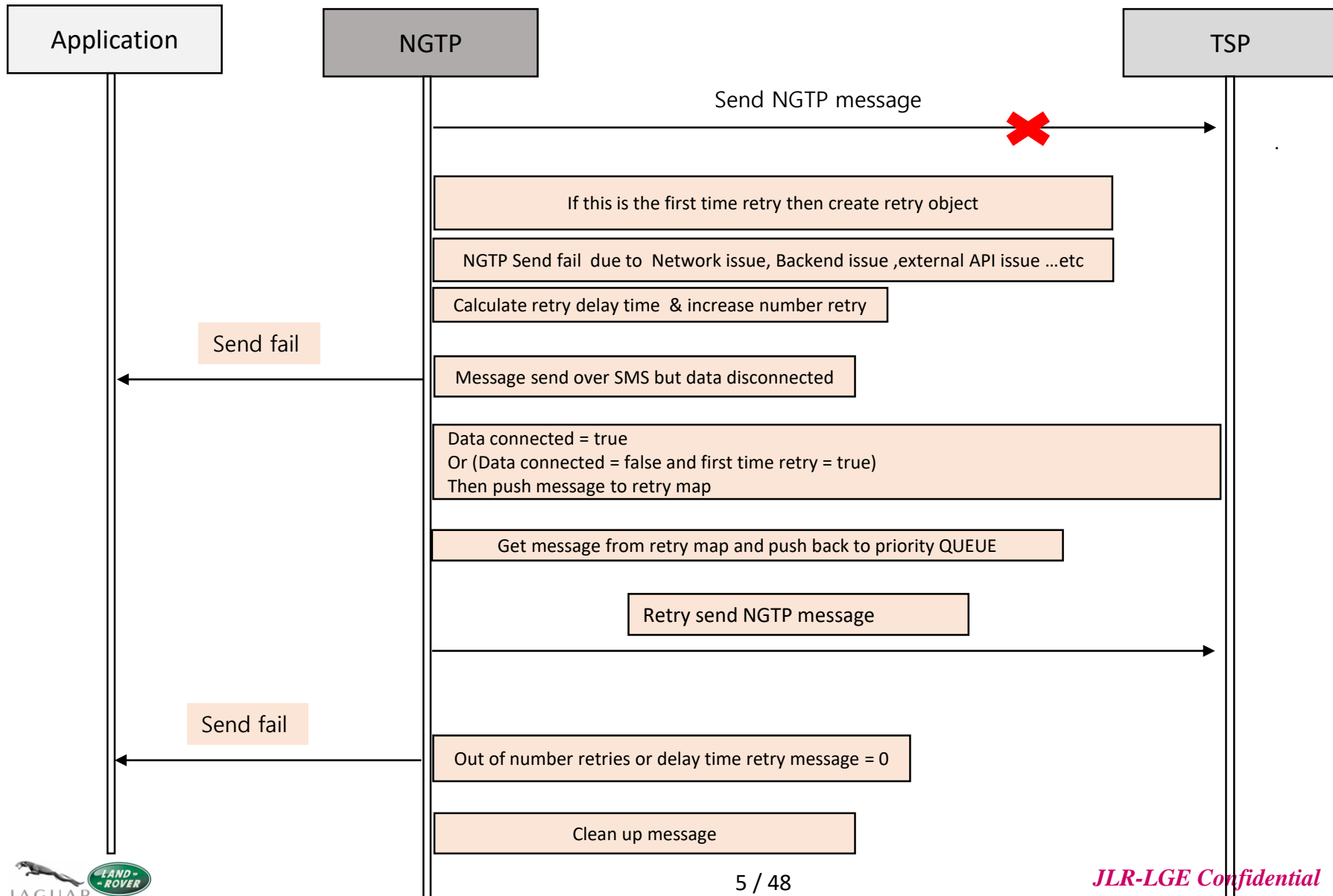
1. Receive Data status (connection, disconnection)
2. Receive Wif Connection status (connection, disconnection)
3. Apps send a message to NGTPManager.
4. NGTPManager checks the current higher priority transport channel and send the message to air through the NAD
5. NGTPManager receive ack form air through the NAD.
6. Deliever the received message to Apps by calling onReceive



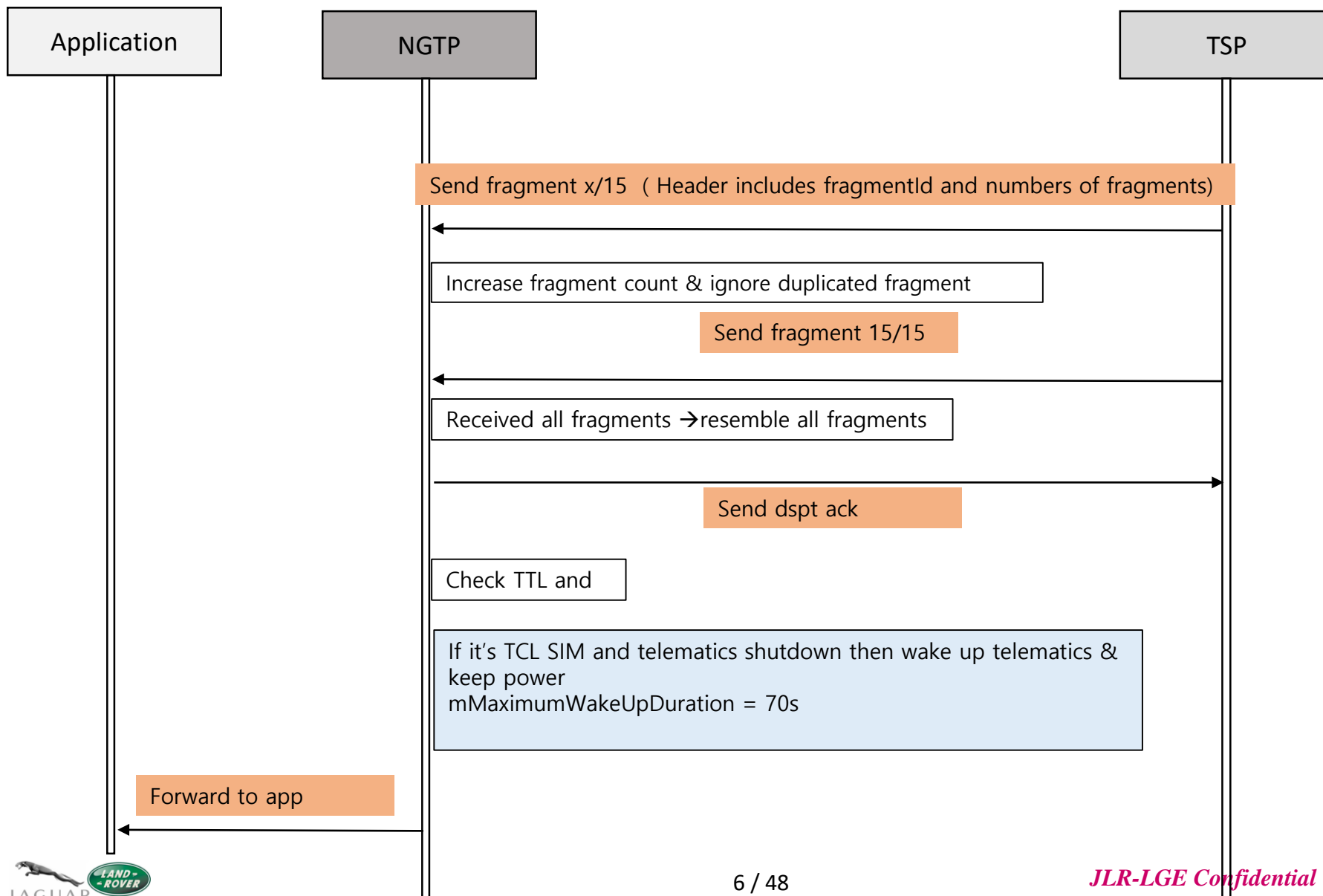
Flow chart of sending message



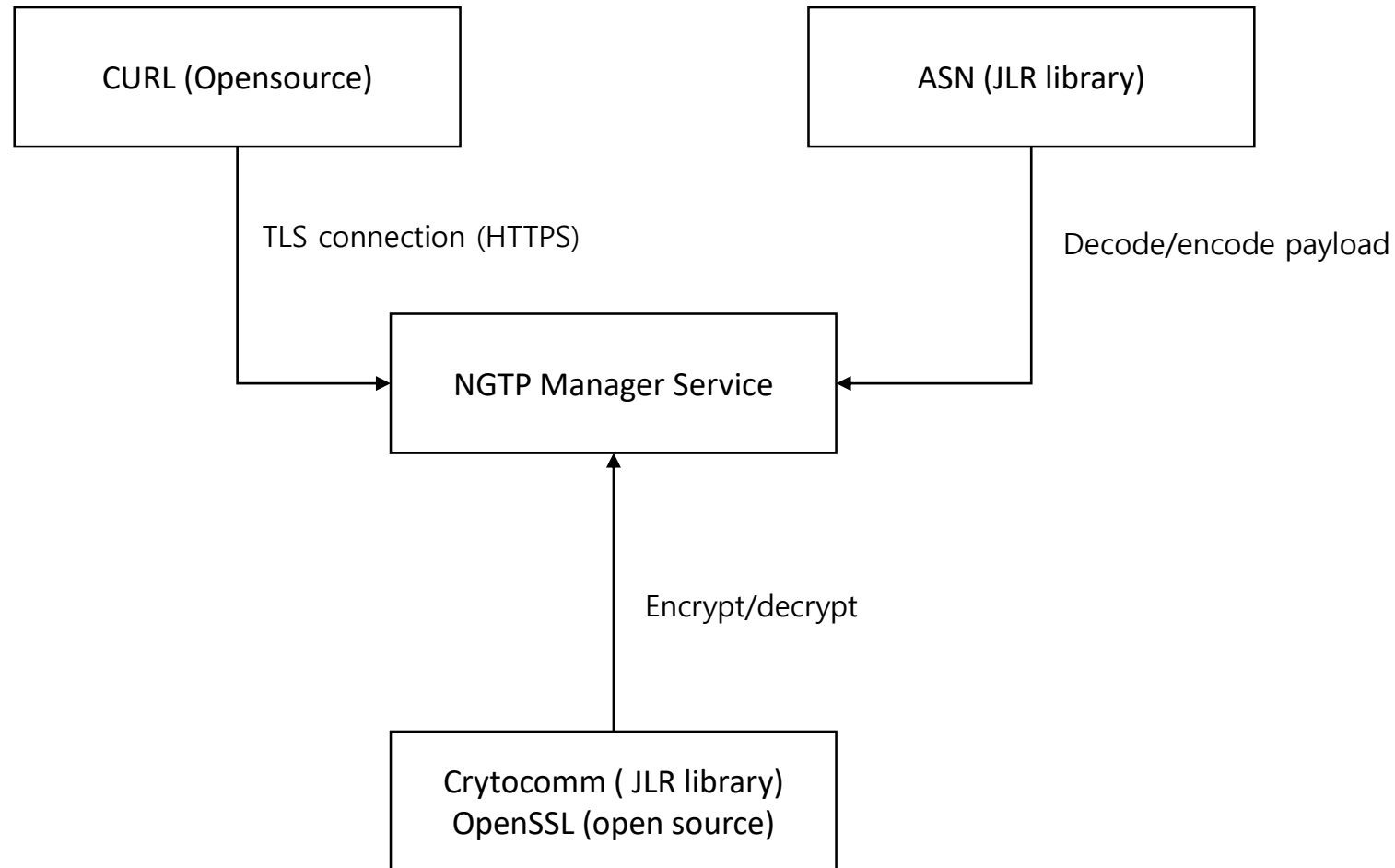
3. NGTP Functions - Retry mechanism in NGTP service



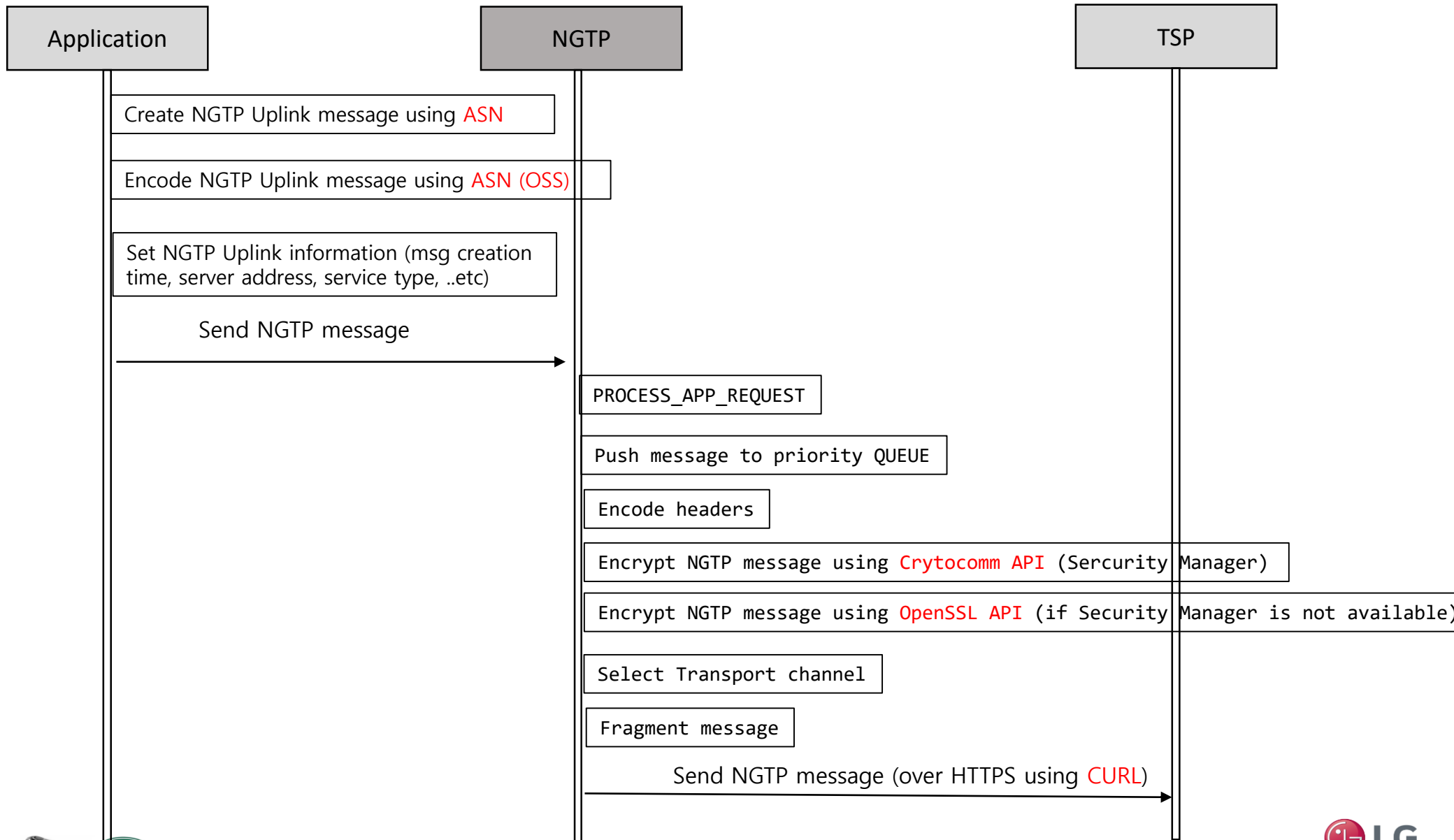
3. NGTP Functions - Messages fragmentation and resemblance



4. External Library in NGTP (1)



4. External Library in NGTP (2)

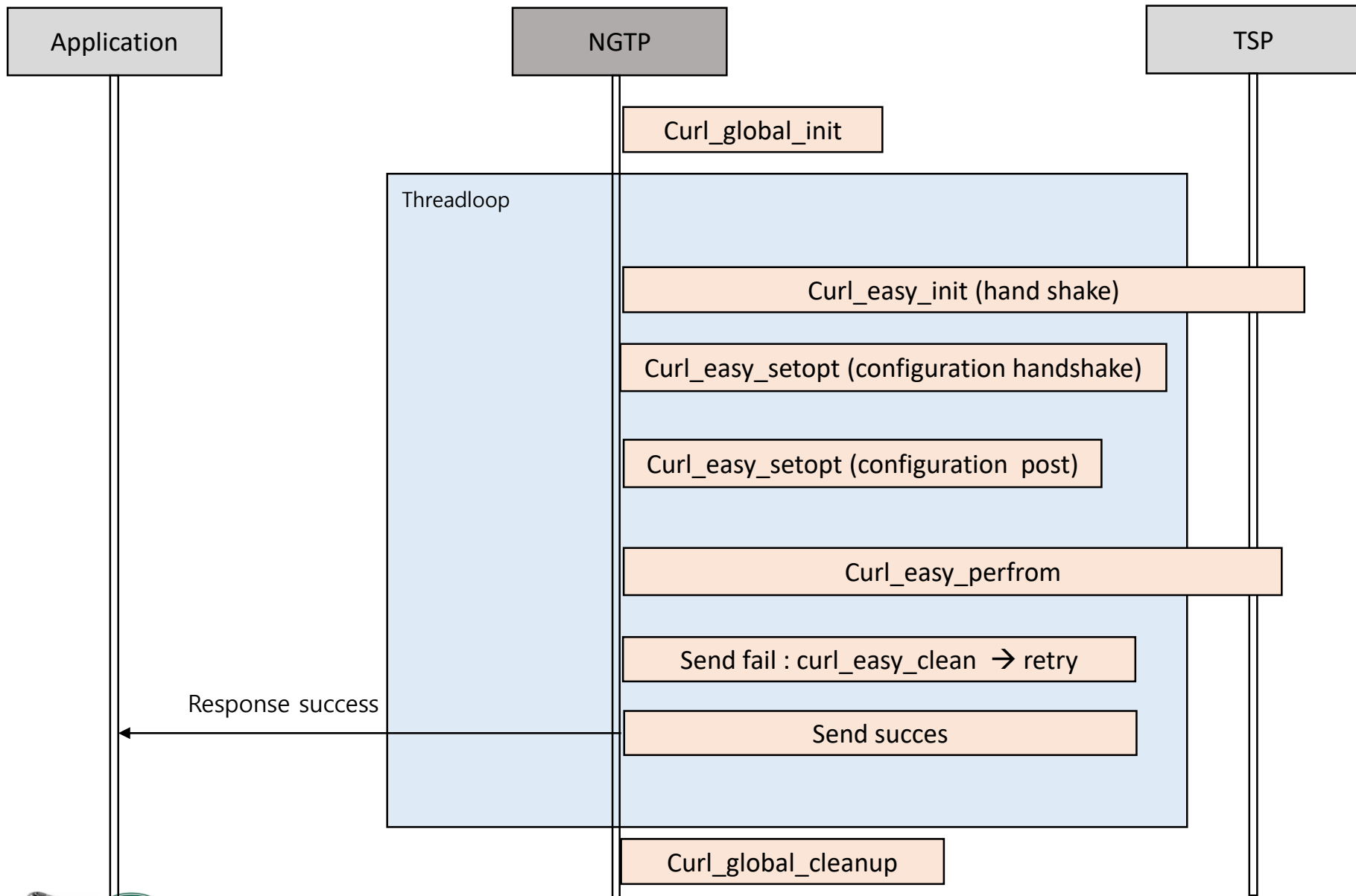


5. NGTP transport

❑ DSPT supports a number of different transport protocols



5. NGTP transport (HTTPS)



6. NGPT Source Code - Class definition

Class	Descriptions
NGTPManagerService	This class is the main class of NGTP service. It is in charge of each handlers, processors and receivers.
NGTPDataService	This class keeps all necessary data for NGTP service
BnNGTPManagerService	Interface class of NGTP APIs
ServiceStub	Implementation class of NGTP APIs
NGTPHandler	Cmd distributer class from APPs, TSP and internal objects.
NGTPSendQueueHandler	This class is in charge of queue handling of uplink messages according to their priority.
NGTPAppRequestProcessor	This class is in charge of sending message by deciding the transport channel.
NGTPTSPRequestProcessor	This class is in charge of receiving message. it decides the receiver application and deliver the message.
NGTPRetryProcessor	This class is in charge of retry algorithm and sending.
NGTPWaitingTSDPMessage	This class is waiting-for-message class for UDP
NGTPHTTPsGet	This class is waiting-for-message class for HTTPs
NGTPSMSReceiverCallback	This class is waiting-for-message class for SMS
NGTPTransport	This class is abstract class for sending function.
NGTPTransportUDP	This class is implementation of NGTPTransport for UDP
NGTPTransportHTTP	This class is implementation of NGTPTransport for HTTP
NGTPTransportSMS	This class is implementation of NGTPTransport for SMS
NGTPCrypto	This class is in charge of encryption and decryption of NGTP message
NGTPMessage	This class is abstract class for encoding/decoding function.
NGTPMessageEncode	This class is implementation of NGTPMessage for encoding.
NGTPMessageDecode	This class is implementation of NGTPMessage for decoding.
BpNGTPReceiver	This class is interface class of message receiving on application side
IDU	Internal Data unit in-between classes
InternalNGTPData	Internal Data unit between application and NGTPManagerService

7.NGTP common Issues

Issues will be discussed on Meeting :<http://collab.lge.com/main/display/~hoai.tran/Issue+Investigation>

No.	Issue key	Summary	Assignee	Created	Status	Resolution	Current Status/Analysis/Symptom/Assumption/Next Action
1	VEVDCTRI-12001	[DQA][VDC][TCL][RVC] Sometimes the board tries to communicate with sms and shows log send err(sms): 41.	San Kim	12/16/2021 1:24	Doing	Unresolved	Not NGTP issue – Network Issue (TaekyoungLim) : It is normal behavior to send a dsptAck as an SMS for a received SMS 12-20 06:18:52.467 1608 1633 E NGTPLOG : send err(sms): 41
2	VEVDCTRI-11982/ VT-4633	Remote App Stopped up Getting READY RETRIAL NGTP message					
3	VEVDCTRI-11953	[VDC_STR][TCL]Applicatio SecurityManager in Teler					
4	VEVDCTRI-11949	Delays and failure observ different remote request					
5	VEVDCTRI-11918	FMS-IS-594993 precondi did not work.					

13th April 2022

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Added object: File (image)

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8. NGTP open questions



THANK
YOU!

